

Fig. 1

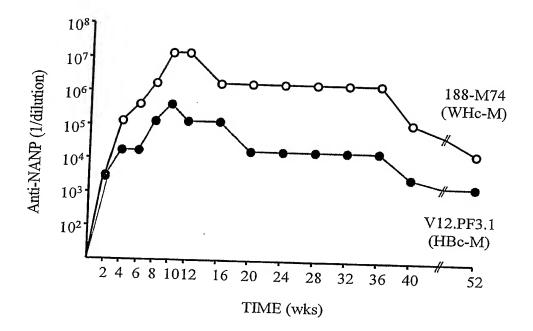


Fig. 2

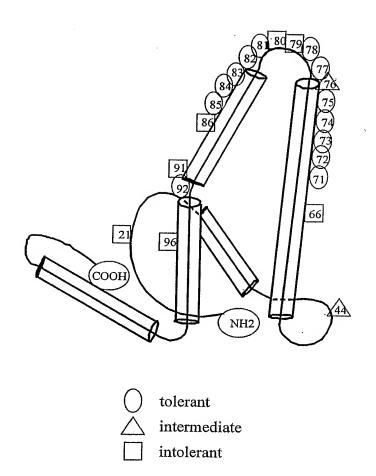


Fig. 3

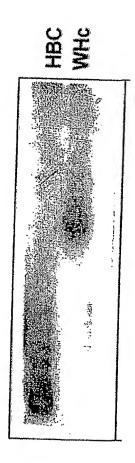


Fig. 4

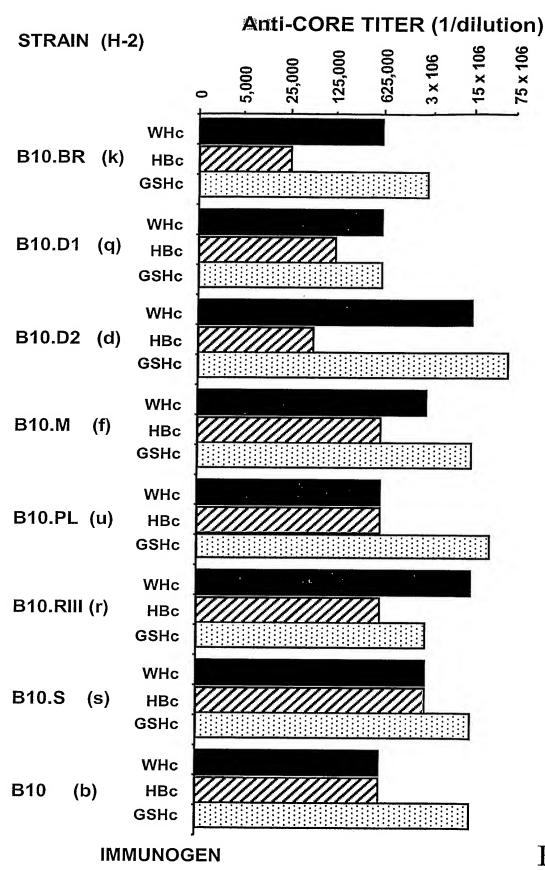


Fig. 5

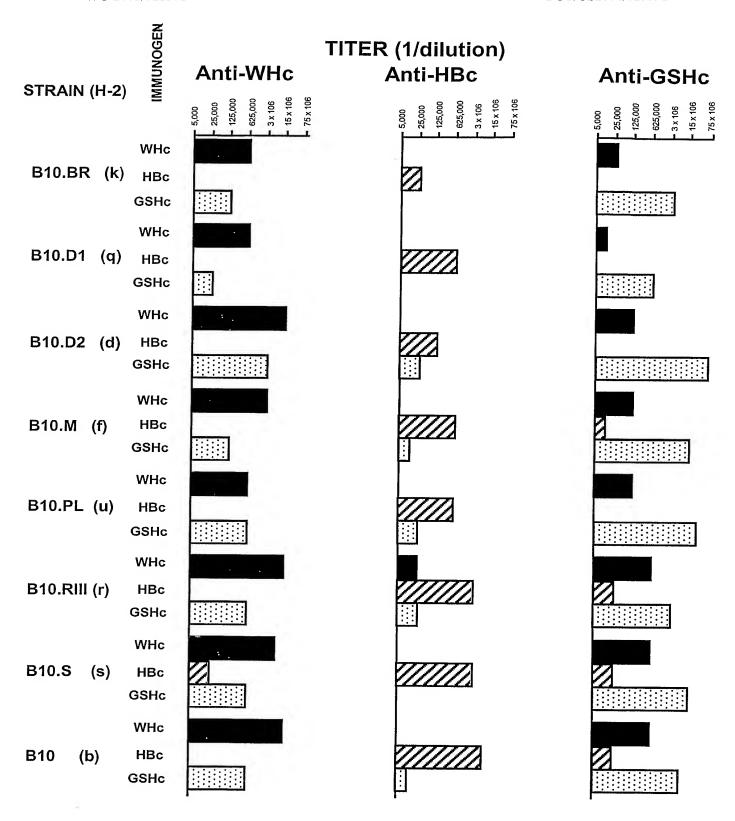


Fig. 6

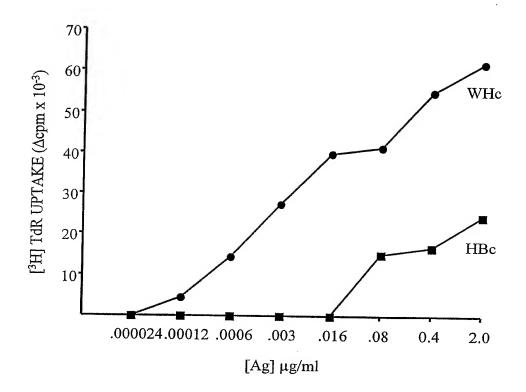


Fig. 7

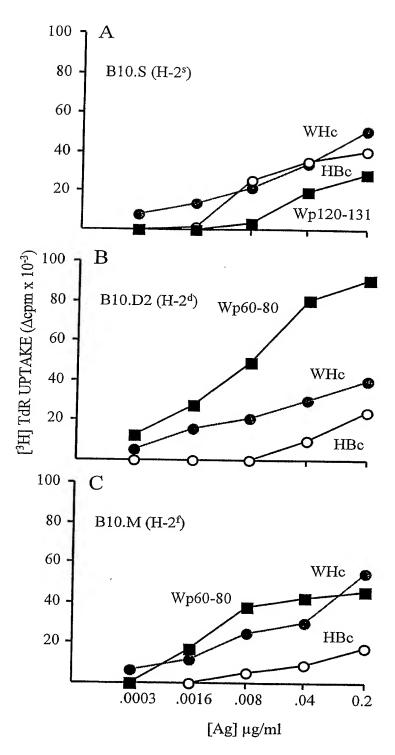
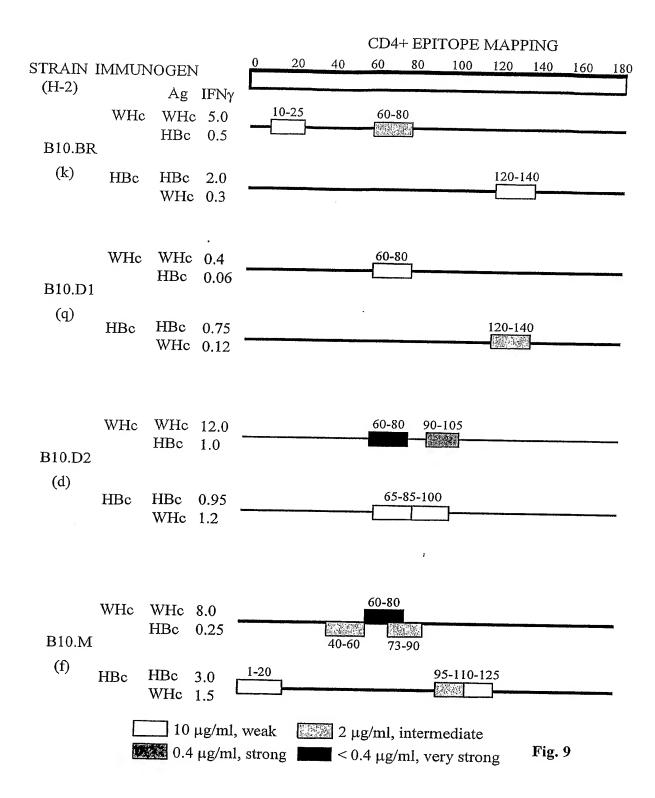
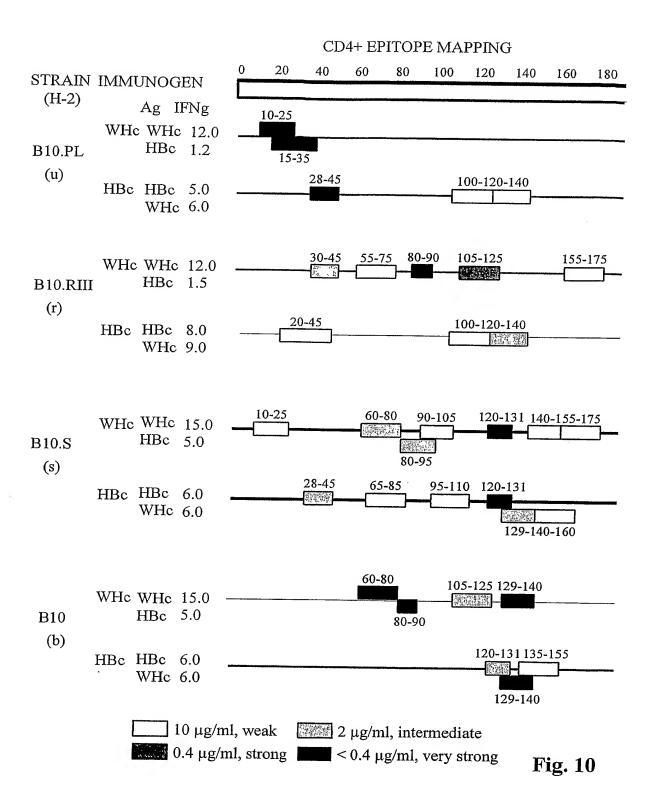


Fig. 8





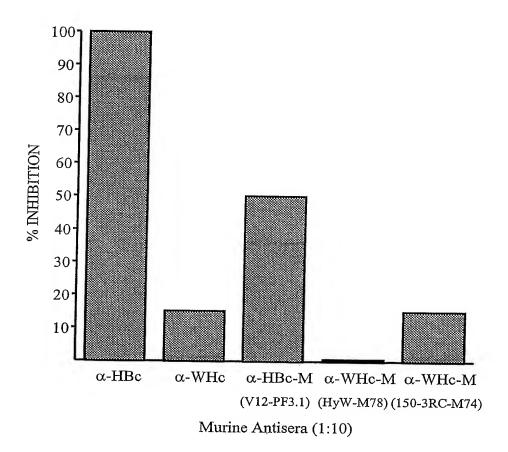


Fig. 11

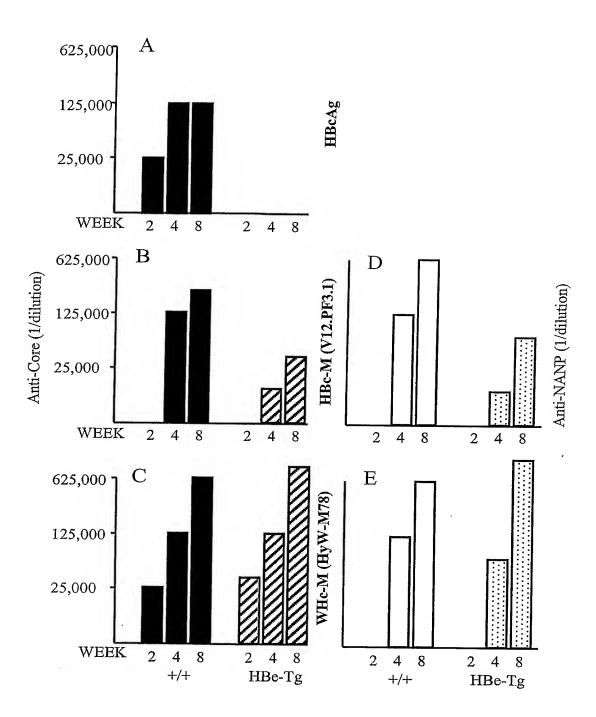


Fig. 12

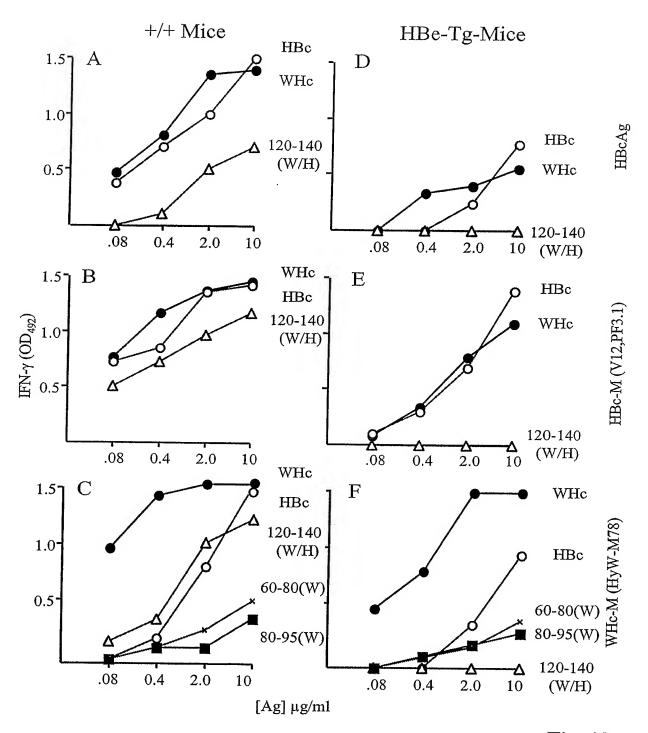
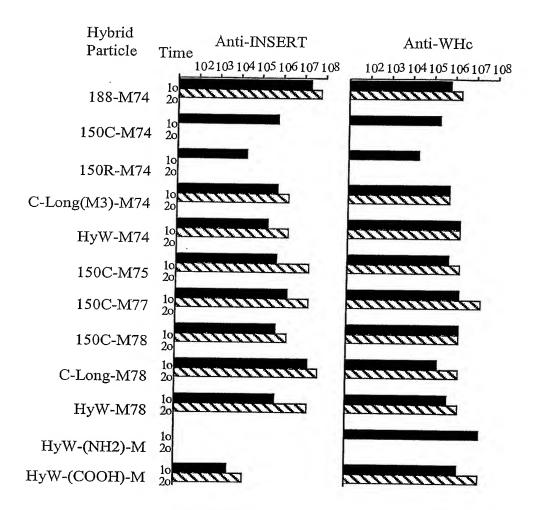
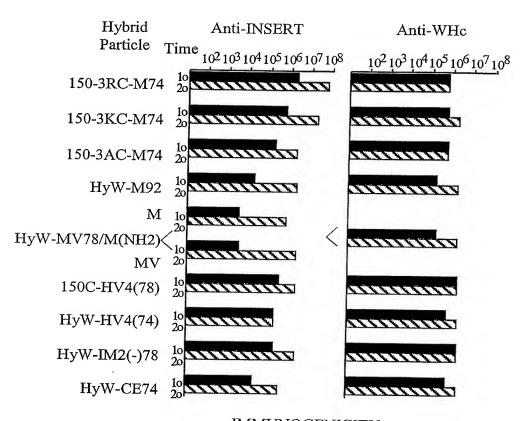


Fig. 13



IMMUNOGENICITY

Fig. 14



IMMUNOGENICITY

Fig. 15

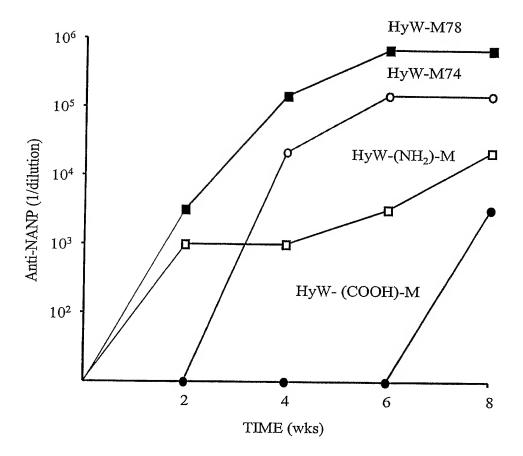


Fig. 16

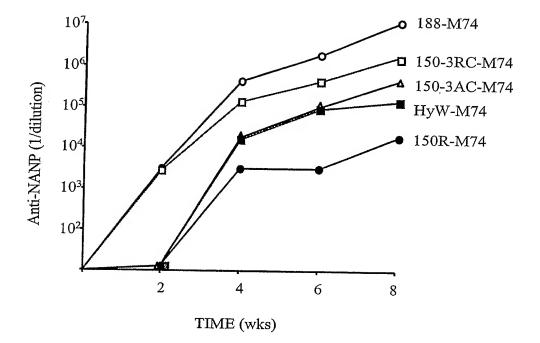
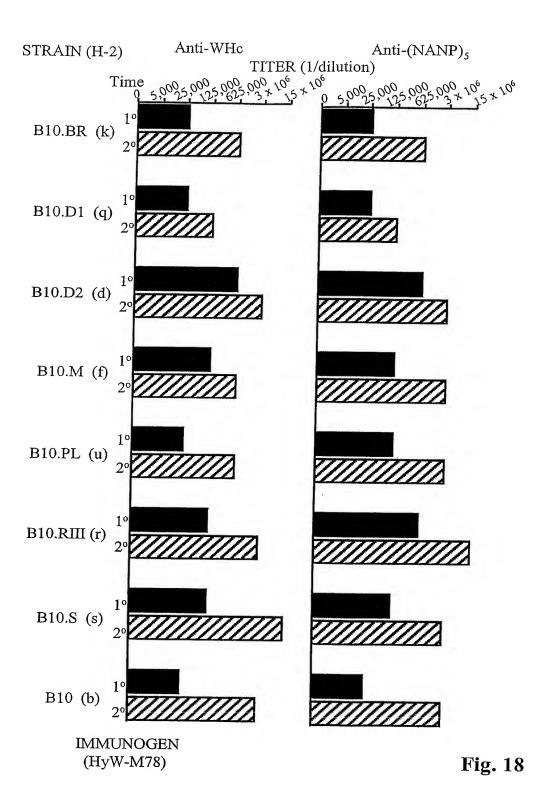
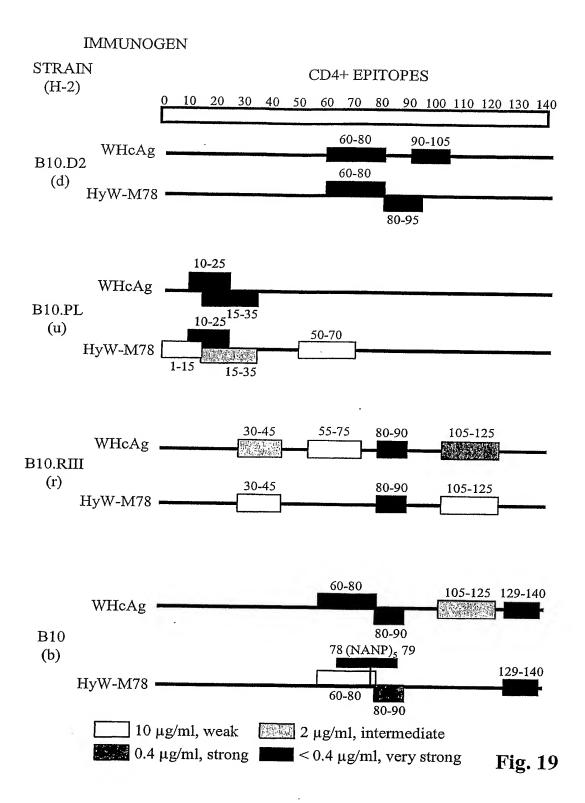


Fig. 17





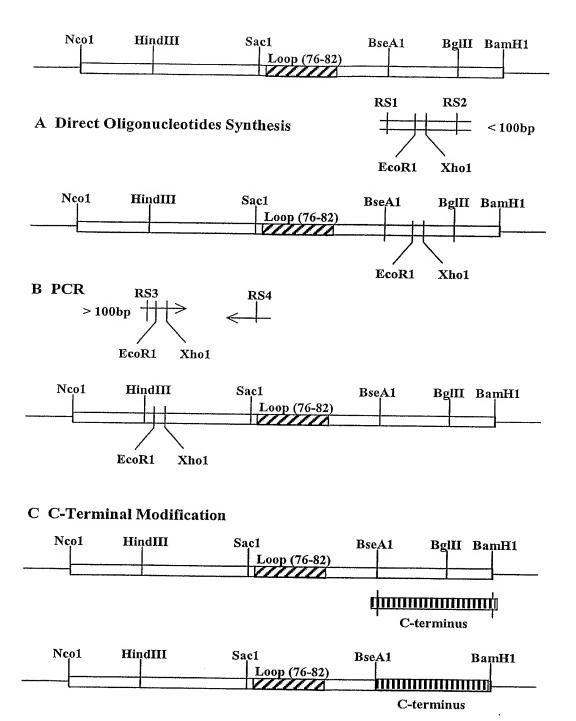


Fig. 20

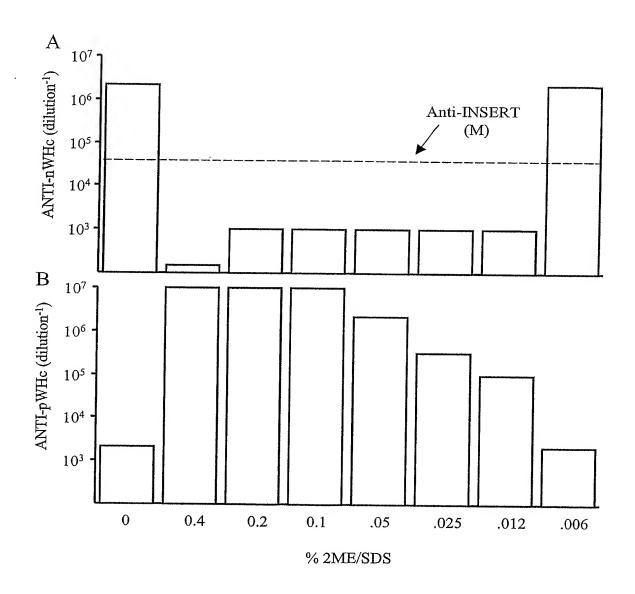


Fig. 21

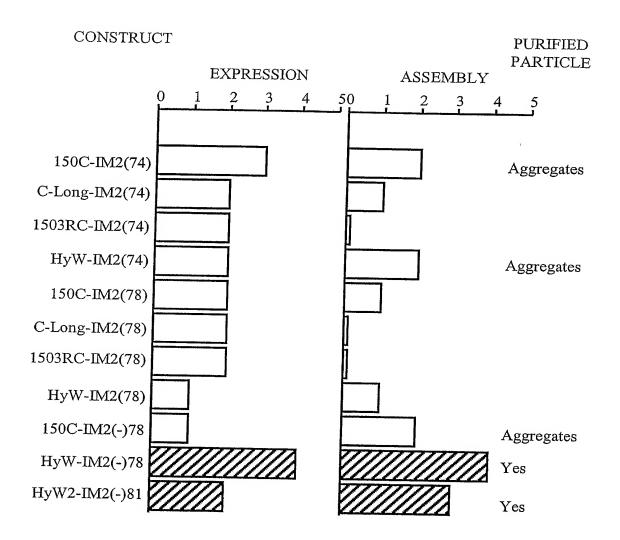


Fig. 22

Polyclonal Anti-HyW-IM2(-)78		625000	125000	125000	3 x 10 ⁶	625000	625000	3×10^6	625000	3×10^6	; 15 x 10	·	(Dilution= 0.5 OD_{492}) (1/Dilution)
mAb 14C2	DSSD	51200	25600	12800	25600	6400	1600	12800	25600	102400	625000.	0	(Dilution=0.5 (
 	EWGCRCNDS	1 1 1	1 1	1 1 1 1	1	1	1 1 1	A	- A	- A - A -			
	ETPIRNE	1 1 1 1 1 1 1 1	A	A	f	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	HyW-IM2(-)78		
Fig. 23	Wt M2e M S L L T E V	P1	P2	P3	P4	P5	9d	P7 T4	P8 84	P9 04	Core-IM2(-) Particle	Core-M78 Particle	

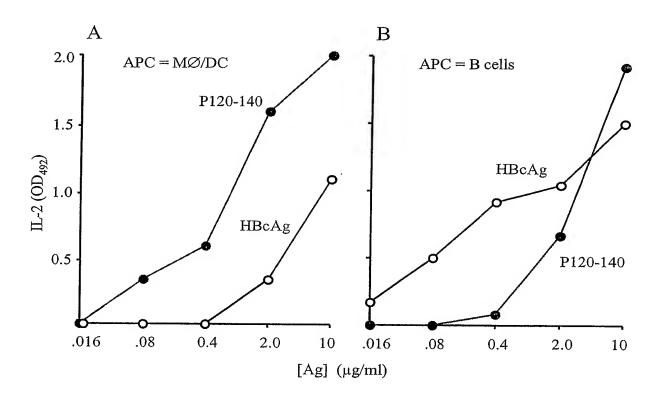
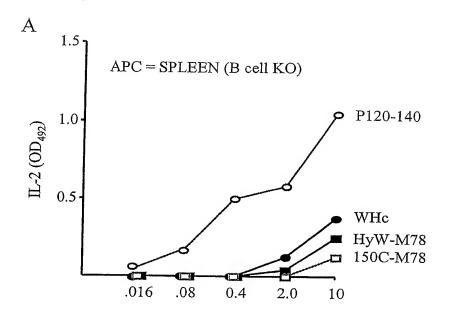


Fig. 24



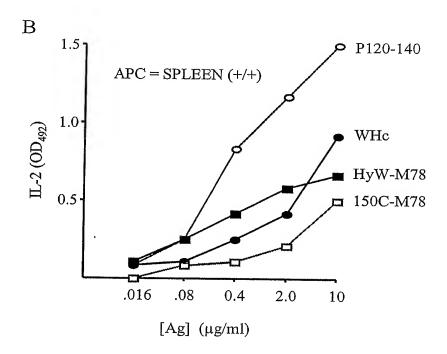


Fig. 25

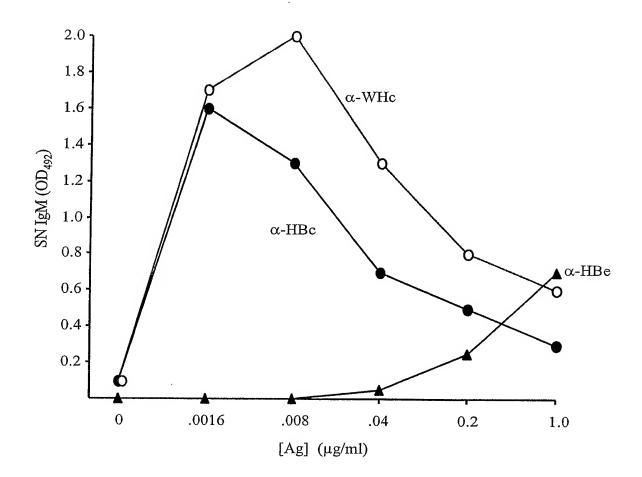


Fig. 26

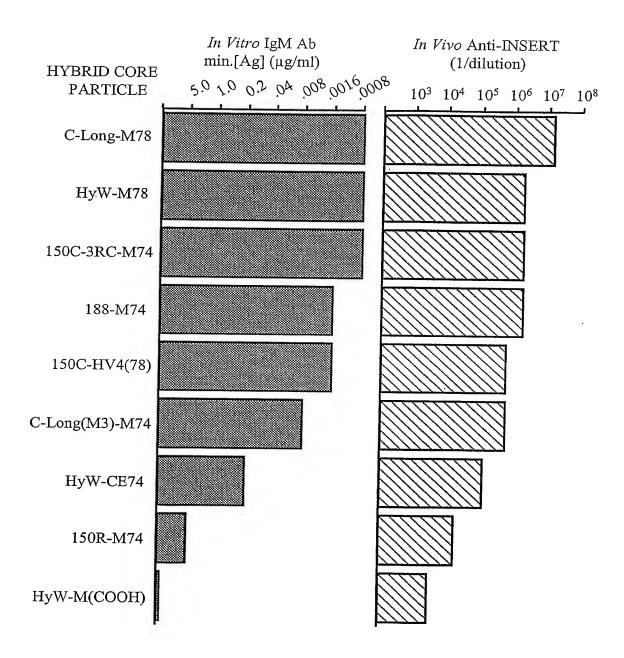


Fig. 27

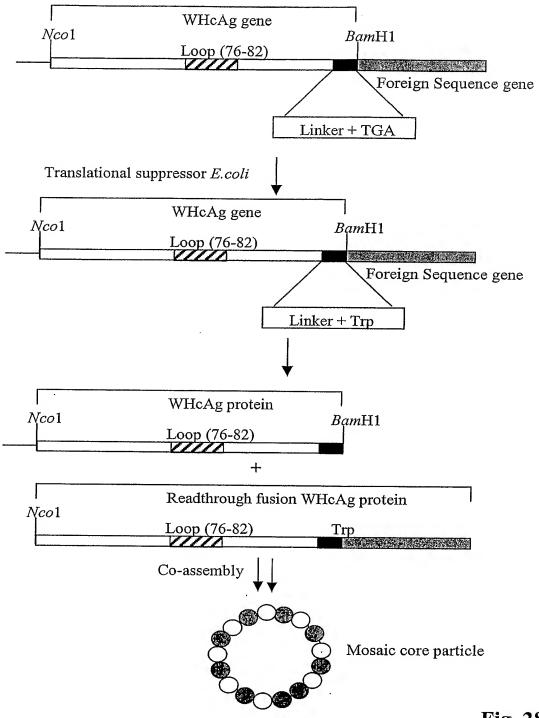


Fig. 28

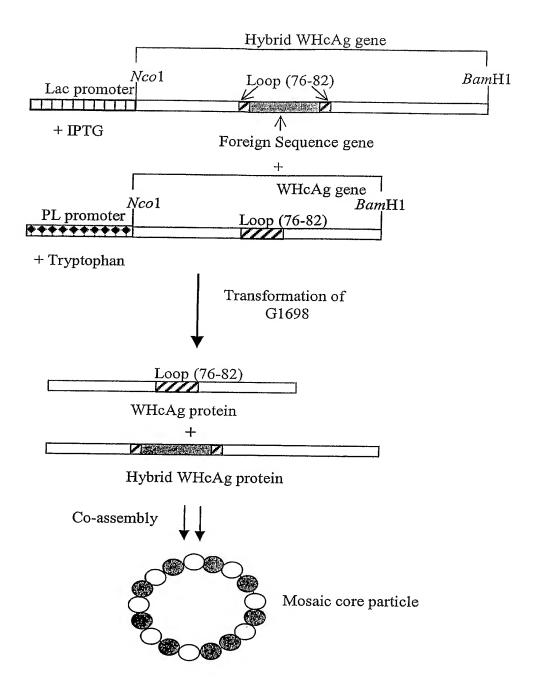
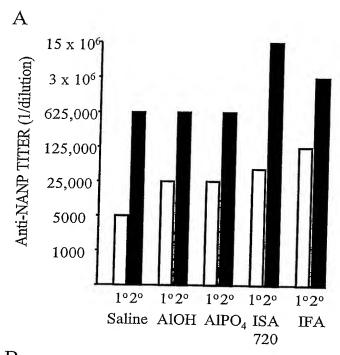
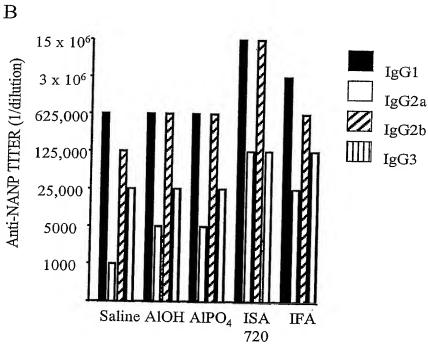


Fig. 29





Adjuvant

Fig. 30

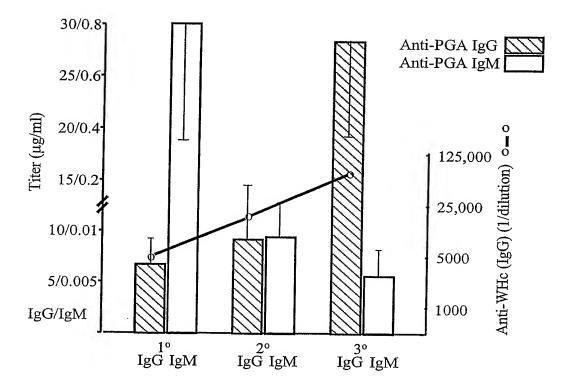


Fig. 31

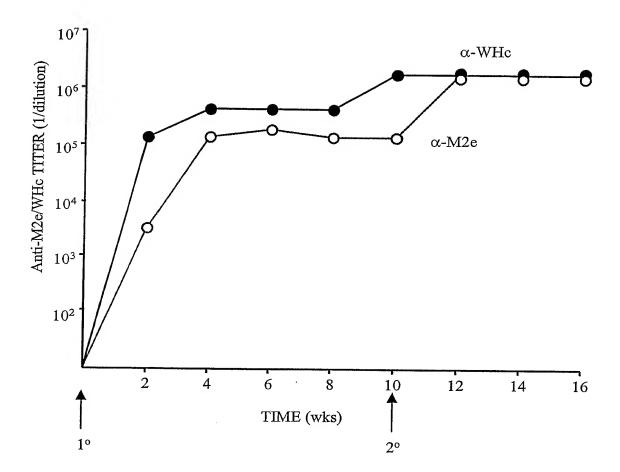


Fig. 32

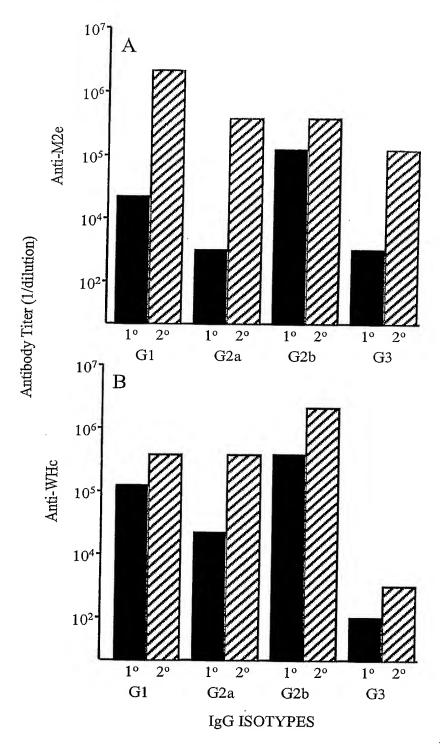


Fig. 33

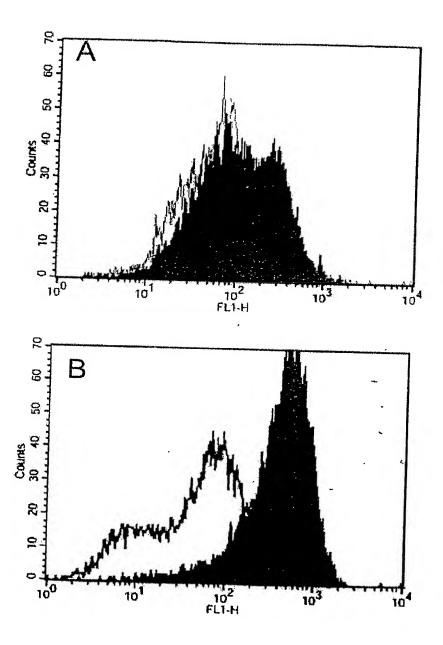


Fig. 34

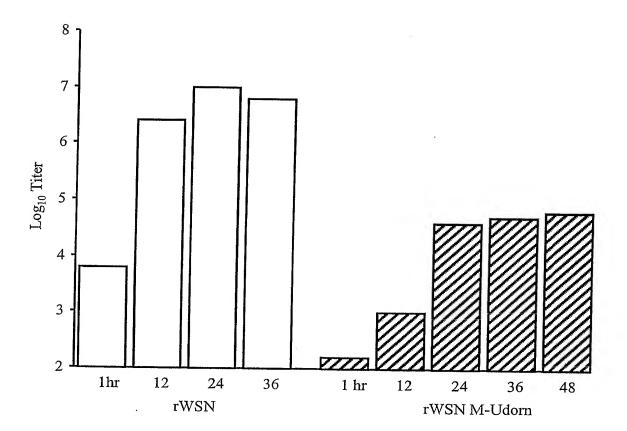


Fig. 35

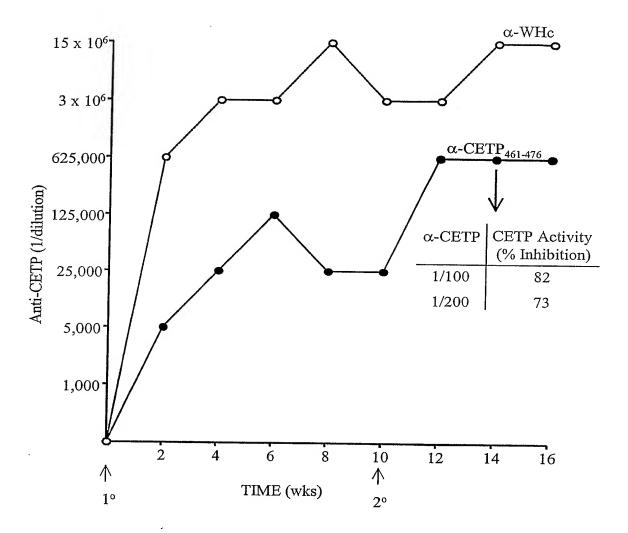


Fig. 36

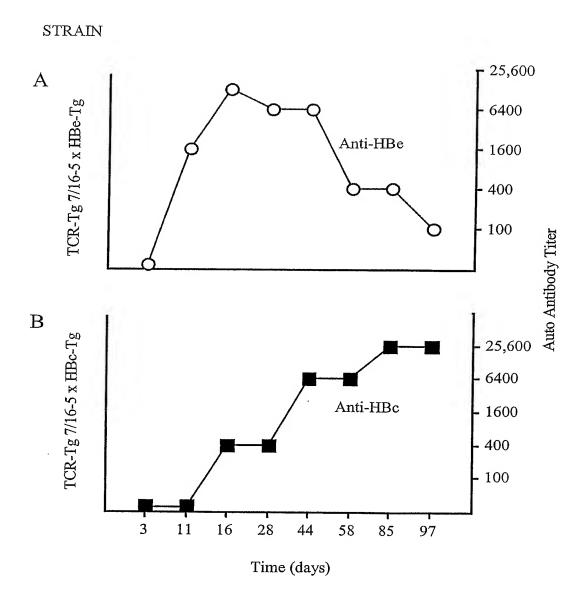


Fig. 37

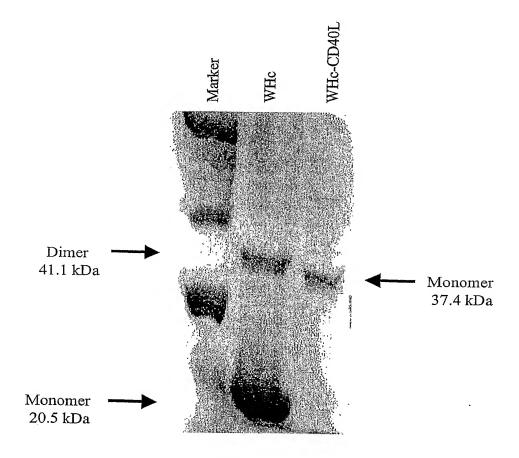


Fig. 38

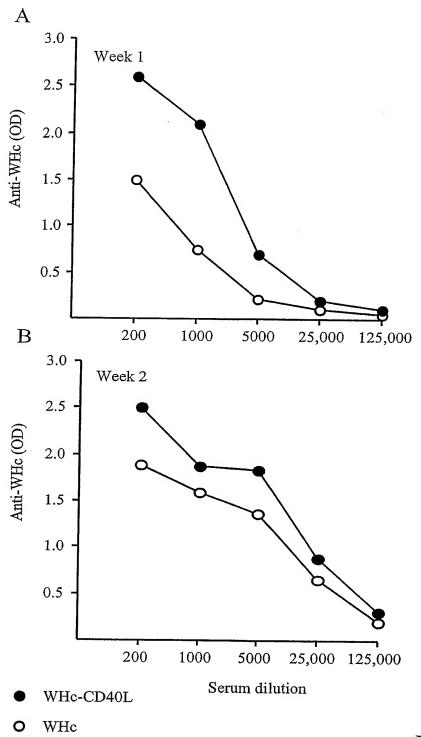


Fig. 39

Fig. 40

A Wild Type WHcAg DNA (SEQ ID NO:37)

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TTTGGACTTCTTTCCTGACCTTAATGCTTTGGTGGACACTGCTACTGCCTTGTATGAAG
AAGAGCTAACAGGTAGGGAACATTGCTCTCCGCACCATACAGCTATTAGACAAGCTTTA
GTATGCTGGGATGAATTAACTAAATTGATAGCTTGGATGAGCTCTAACATAACTTCTGA
ACAAGTAAGAACAATCATTGTAAATCATGTCAATGATACCTGGGGACTTAAGGTGAGAC
AAAGTTTATGGTTTCATTTGTCATGTCTCACTTTCGGACAACATACAGTTCAAGAATTT
TTAGTAAGTTTTGGAGTATGGATCAGGACTCCAGCTCCATATAGACCTCCTAATGCACC
CATTCTCTCGACTCTTCCGGAACATACAGTCATTAGGAGAGAGGTGCAAGAGCTT
CTAGGTCCCCCAGAAGACGCACTCCCTCTCCTCGCAGGAGAAGATCTCAATCACCGCGT
CGCAGACGCTCTCAATCTCCATCTGCCAACTGCTGA

B Wild Type WHcAg (SEQ ID NO:1)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTATALYEEELTGREHCSPHHTAIRQAL VCWDELTKLIAWMSSNITSEQVRTIIVNHVNDTWGLKVRQSLWFHLSCLTFGQHTVQEF LVSFGVWIRTPAPYRPPNAPILSTLPEHTVIRRRGGARASRSPRRRTPSPRRRRSQSPR RRRSQSPSANC

C Truncated WHcAg (SEQ ID NO:38)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTATALYEEELTGREHCSPHHTAIRQAL VCWDELTKLIAWMSSNITSEQVRTIIVNHVNDTWGLKVRQSLWFHLSCLTFGQHTVQEF LVSFGVWIRTPAPYRPPNAPILSTLPEHTVI

Fig. 41

A Wild Type GSHcAg DNA (SEQ ID NO:39)

ATGGACATAGATCCCTATAAAGAATTTGGTTCTTCTTATCAGTTGTTGAATTTTCTTCC
TTTTGGACTTTTTTCCTGATCTCAATGCATTGGTGGACACTGCTGCTGCTCTTTATGAAG
AAGAATTAACAGGTAGGGAGCATTGTTCTCCTCATCATACTGCTATTAGACAGGCCTTA
GTGTGTTGGGAAGAATTAACTAGATTAATTACATGGATGAGTGAAAATACAACAGAAGA
AGTTAGAAGAATTATTGTTGATCATGTCAATAATACTTGGGGACTTAAAGTAAGACAGA
CTTTATGGTTTCATTTATCATGTCTTACTTTTTGGACAACACACAGTTCAAGAATTTTTG
GTTAGTTTTGGAGTATGGATTAGAACTCCAGCTCCTTATAGACCACCTAATGCACCCAT
TTTATCAACTCTTCCGGAACATACAGTCATTAGGAGAAGAGGGGTTCAAGAGCTGCTA
GGTCCCCCCGAAGACGCACTCCCTCTCCTCGCAGGAGAAGGTCTCAATCACCGCGTCGC
AGACGCTCTCAATCTCCAGCTTCCAACTGCTGA

B Wild Type GSHcAg (SEQ ID NO:21)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTAAALYEEELTGREHCSPHHTAIRQAL VCWEELTRLITWMSENTTEEVRRIIVDHVNNTWGLKVRQTLWFHLSCLTFGQHTVQEFL VSFGVWIRTPAPYRPPNAPILSTLPEHTVIRRRGGSRAARSPRRRTPSPRRRRSQSPRR RRSQSPASNC

C Truncated GSHcAg (SEQ ID NO:40)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTAAALYEEELTGREHCSPHHTAIRQAL VCWEELTRLITWMSENTTEEVRRIIVDHVNNTWGLKVRQTLWFHLSCLTFGQHTVQEFL VSFGVWIRTPAPYRPPNAPILSTLPEHTVI

Fig. 42

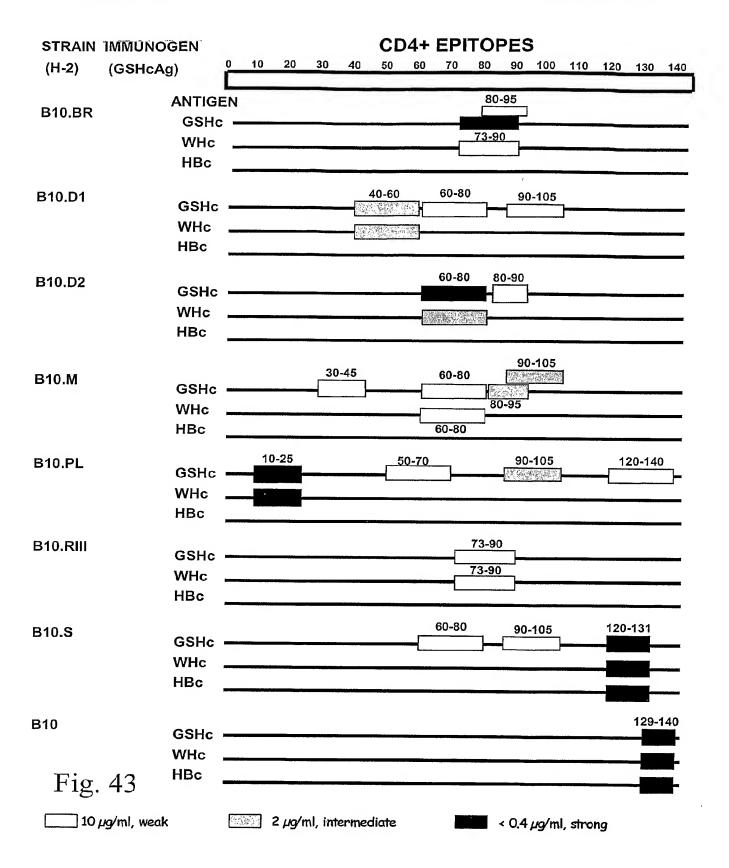
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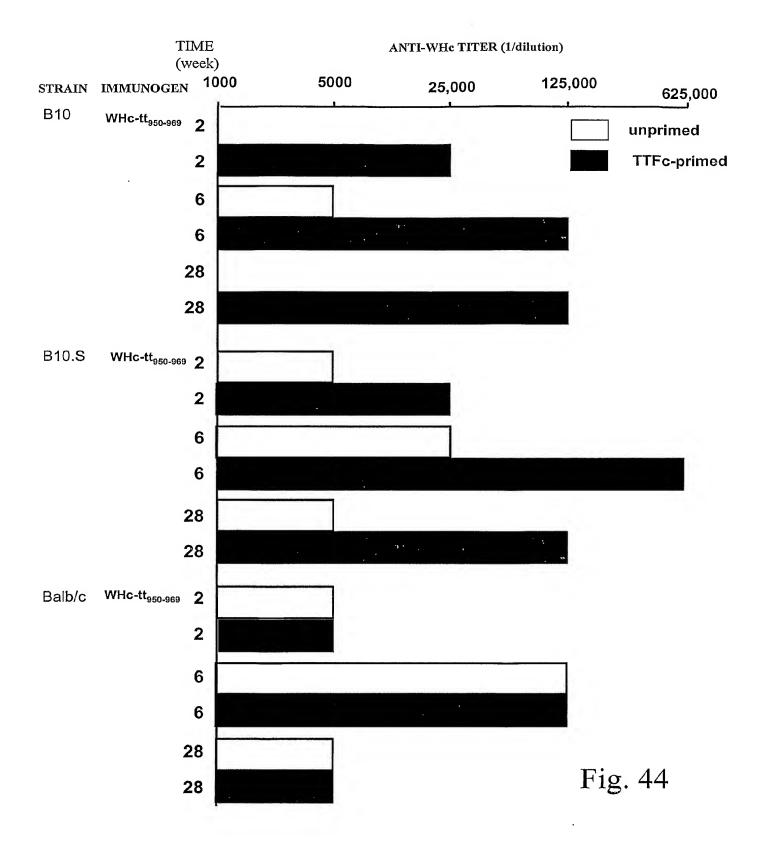
B Wild Type HBcAg (SEQ ID NO:41)

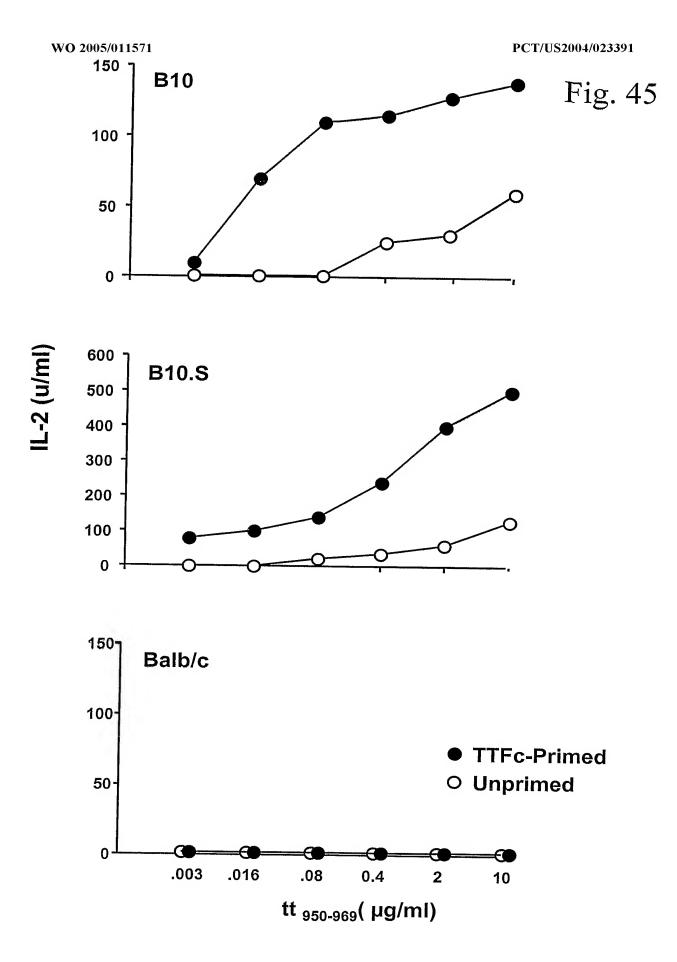
MDIDPYKEFGATVELLSFLPSDFFPSVRDLLDTASALYREALESPEHCSPHHTALRQAI LCWGELMTLATWVGVNLEDPASRDLVVSYVNTNMGLKFRQLLWEHISCLTFGRETVIEY LVSFGVWIRTPPAYRPPNAPILSTLPETTVVRRRGRSPRRRTPSPRRRRSQSPRRRRSQ SRESQC

C Truncated HBcAg (SEQ ID NO:58)

MDIDPYKEFGATVELLSFLPSDFFPSVRDLLDTASALYREALESPEHCSPHHTALRQAI 54 LCWGELMTLATWVGVNLEDPASRDLVVSYVNTNMGLKFRQLLWFHISCLTFGRETVIEY 11822 LVSFGVWIRTPPAYRPPNAP|LSTLPETTVV







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	30 M.D. I. N. A. S. R. A. L. A. N. V. Y. D. A. A. A. C. L. P. P. D. D. P. F. P. K. I. D. D. L. M. D. V. N. A. S. R. A. L. A. N. V. Y. D. A. A. A. C. L. P. D. D. P. F. P. P. P. R. I. D. D. L. M. D. T. D. P. Y. K. E. F. G. A. T. V. B. L. L. S. F. L. P. S. D. P. F. P. S. V. R. D. L. M. D. I. D. P. Y. K. E. F. G. A. T. V. B. L. L. S. F. L. P. S. D. F. F. P. S. V. R. D. L. M. D. I. D. P. Y. K. E. F. G. A. T. V. B. L. L. S. F. L. P. S. D. F. F. P. S. V. R. D. L. M. D. I. D. P. Y. K. E. F. G. A. T. V. B. L. L. S. F. L. P. S. D. F. F. P. S. V. R. D. L. M. D. I. D. P. Y. K. E. F. G. S. Y. Q. L. I. N. F. L. P. A. D. F. F. P. S. V. R. D. L. N. M. D. I. D. P. Y. K. E. F. G. S. S. Y. Q. L. I. N. F. L. P. I. D. F. F. P. S. V. R. D. L. N. A. L. M. D. I. D. P. Y. K. E. F. G. S. S. Y. Q. L. I. N. F. L. P. I. D. F. F. P. E. L. N. A. L. M. D. I. D. P. Y. K. E. F. G. S. S. Y. Q. L. I. N. F. L. P. I. D. F. F. P. E. L. N. A. L. M. D. I. D. P. Y. K. E. F. G. S. S. Y. Q. L. I. N. F. L. P. I. D. F. F. P. E. L. N. A. L. M. D. I. D. P. Y. K. E. F. G. S. S. Y. Q. L. I. N. F. L. P. D. F. F. P. E. L. N. A. L. M. D. I. D. P. Y. K. E. F. G. S. S. Y. Q. L. I. N. F. L. P. D. F. F. P. E. L. N. A. L. M. D. I. D. P. Y. K. E. F. G. S. S. Y. Q. L. I. N. F. L. P. D. F. F. P. F. E. L. N. A. L. D. F. F. P. D. F. F. P. D. F. F. P. D. L. N. A. L. D. P. F. F. P. D. F. F. P. D. P. F. F. P. D. D. F. F. P. D.	60 WRDAKDALEPYWKSDSIKKHVLIATHFVDL VRDAKDALEPYWKSDSIKKHVLIATHFVDL VRDAKDALEPYWKSDSIKKHVLIATHFVDL UTASALYRBALES PEHGSPHHTALRRQ UDTASALYRBALES PEHGSPNHTALRQ UDTASALYRBALES PEHGSPNHTALRQ VRDAKDALEPYWRNDSIKKHVLIATHFVDL UDTASALYRBALES PEHGSPNHTALRQ VRTAALYEEEEUTG PHHTALRQ VRTAALYEEEEUTG REHGSPNHTALRQ VRDTATALYEEEEUTG REHGSPHHTAIRQ VRDTATALYEEE	
1011	DHBV-S31 M32991 HHBV M22056 DHBV NC_001344 HBV ayw X65257 Chimp. HBV AF222323 Gibbon HBV AY077735 ROSS'GOOSEHBV M95589 Orangutan HV NC_002168 WMHBV AF046996 GSHV K02715 WHV J02442 AGSH NC_001719	DHBV-S31 M32991 HHBV M22056 DHBV NC_001344 HBV ayw X65257 Chimp. HBV AF222323 Gibbon HBV AY077735 ROSS'GOOSEHBV M95589 Orangutan HV NC_002168 WMHBV AF046996 GSHV K02715 WHV J02442	DHBV-S31 M32991 HHBV M22056 DHBV NC_001344 HBV ayw X65257 Chimp.HBV AP222323 Gibbon HBV AY07735 Ross'gooseHBV M95589 O'Cangutan HV NC_002168 WMHBV AF046996 GSHV K02715 WHV J02442 AGSH NC_001719

G Y L I Q H E E A E E I P L G D L F K H Q E E R I V S F Q G Y L I Q H E E A E E I P L N D L F S N Q E E R I V N F Q G N L I Q H E E A E I P L G D L F K H Q E E R I V N F Q G N N L E D P A S R E Q	150 140 150 170 170 170 170 170 170 17	LWWHYN C LLWGE ANY TNY 1 SRLRTWL STREE LWWHYN C LLWGE ATY TNY 1 SRLRTWL STREE LWWHYN C LLWGE ANY TNY 1 SRLRTWL STREE LWWHYN C LLWGE ANY TNY 1 SRLRTWL STREE LWYHIS C LTFGRETV LEYLVSFGWWIRTPP LWFHIS C LTFGRETV LEYLVSFGWWIRTPP LWFHIS C LTFGRETV LEYLVSFGWWIRTPP LWFHIS C LTFGRETV LEYLVSFGWWIRTPP LWFHIS C LTFGRETV LEYLWSFGWWIRTPP LWFHIS C LTFGRETV C EFLWSFGWWIRTPP LWFHIS C LTFGRETV C EFLWSFGWWIRTPP LWFHIS C LTFGRETV C EFLWSFGWWIRTPP LWFHIS C LTFGQHTV Q EFLWSFGWWIRTPP LWFHIS C LTFGQHTV Q EFLWSFGWWIRTPP LWFHIS C LTFGQHTV Q EFLWSFGWWIRTPP
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Y R G R D A P T I E A I T R P I Q V A Q G G R K T S S G T	220 RK P R G L E P R R R K V K T T F V Y G R R R S K S R E R R R R R R R R R R R R R R R R R	250 260 270 270 270 270 270 270 27
DHBV-S31 M32991 K HHBV M22056 K DHBV MC_001344 K HBV ayw X65257 A Chimp.HBV AY222323 A Gibbon HBV AY27735 A Ross'gooseHBV M95599 K Orangutan HV NC_002168 A WMHBV AF046996 A GSHV K02715 P WHY J02442 P AGSH NC_001719 P	DHBV-S31 M32991 R HHBV M22056 R DHBV NC_001344 R HBV ayw X65257 R Chimp.HBV AF222333 R Gibbon HBV AY077735 R Ross'gooseHBV M95589 R Ozangutan HV NC_002168 R MMHBV AF046996 R GSHV K02715 R WHV J02442 R AGSH NC_001719 R R R	DHEV-S31 M32991